

13. A spectacle lens system as defined in claim 3 in which said curved cylinder has a non-uniform radius of curvature.

14. A spectacle lens system as defined in claim 7 in which said front surface is concave posteriorly and said back surface is convex posteriorly, said back surface having a radius of curvature greater than that of said front surface.

15. A spectacle lens system as defined in claim 7 in which said front surface is concave posteriorly and said back surface is planar.

16. A spectacle lens system as defined in claim 7 in which said front surface is concave posteriorly and said back surface is concave posteriorly, said back surface having a radius of curvature greater than that of said front surface.

17. A spectacle lens system as defined in claim 12 in which the length, diameter and disposition of said curved cylinder and the length of said column of said third immiscible liquid are adapted so as to produce a stable zone of tilt over which no change in refractive power occurs, said zone comprising the initial phase of tilt from the position of horizontal gaze.

18. A spectacle lens system as defined in claim 12 in which an obstructing or compressing means is incorporated into said system for the purpose of electively locking said immiscible liquids into a particular relationship with said chamber and with each other, thereby making each refractive power within the continuous spectrum available for vision in all spectacle orientations.

19. A spectacle lens system as defined in claim 12 in which the volume of transparent liquid in said curved cylinder is sufficient to produce a change in refractive power equal to three diopters when fully displaced.

20. A spectacle lens system as defined in claim 12 in which said front surface and forward half of said circular band are composed of glass treated with dimethylchlorosilane, said back surface and rear half of said circular band are composed of glass, first transparent liquid being cyclotetra (methylphenyl) siloxane, there being an attraction between said first liquid and said front surface and forward half of said circular band, second transparent liquid being a 16.27% NaCl aqueous solution by weight, there being an attraction between said second liquid and said back surface and rear half of said circular band.

21. A bifocal contact lens for correction of impaired accommodation comprising a transparent housing; a single closed chamber having a central circular portion defining the optical zone, a peripheral annular portion, and interconnecting means between said circular and annular portions; two immiscible transparent liquids having different densities and different refractive indices, said liquids being disposed such that a portion of said optical zone surrounding the optical axis of said contact lens is occupied by one of said liquids with said optical axis positioned horizontally and by the other of said liquids when said lens has been tilted a certain minimum angle from horizontal.

22. A contact lens as defined in claim 21 in which the portion of said chamber in said optical zone has front and back spherical surfaces that define a positive liquid lens.

23. A contact lens as defined in claim 21 in which the denser of said liquids has the higher refractive index.

24. A contact lens as defined in claim 21 in which said optical zone covers at least the entire pupillary area.

25. A contact lens as defined in claim 21 in which said interconnecting means comprise at least three radially-

disposed connecting channels distributed evenly around said optical zone.

26. A contact lens as defined in claim 21 in which the width of said annular portion is such that an interface between said liquids intersects the inner margins of said annular portion at substantially the same points with said lens tilted downwardly said minimum angle as it does with said optical axis positioned horizontally.

27. A contact lens as defined in claim 21 in which the depth of said chamber is augmented peripherally, the degree of augmentation and the width of the peripheral band of augmentation being such that an interface between said liquids intersects the inner margins of said band at substantially the same points with said lens tilted downwardly said minimum angle as it does with said optical axis positioned horizontally.

28. A contact lens as defined in claim 21 in which said chamber extends over the sclera.

29. A multifocal contact lens for correction of impaired accommodation comprising a transparent housing, a single closed chamber having a central circular portion defining the optical zone and a peripheral annular portion, at least three evenly-spaced radially-disposed channels connecting said optical zone portion and said annular portion, and two immiscible transparent liquids completely filling said chamber, said liquids having different refractive indices and very slightly different densities, said optical zone portion of said chamber having front and back surfaces that are spherical in contour, both surfaces being concave posteriorly and said front surface having a radius of curvature smaller than that of said back surface, there being a strong surface attraction between the denser of said liquids and both said front surface and the front surface of each of said connecting channels, there being a strong surface attraction between the less dense of said liquids and both said back surface and the back surface of each of said connecting channels, there being no significant surface attraction between either of said liquids and the remaining chamber surfaces, said liquids, therefore, covering their respective surfaces in said optical zone and forming between themselves an interface having a part in said optical zone portion of said chamber that is disposed substantially perpendicular to the optical axis of the contact lens at all times, and a part in the remainder of said chamber defining a horizontal plane.

30. A contact lens as defined in claim 29 in which said chamber conforms generally to the contour of a contact lens, said chamber, therefore, having a certain anteroposterior span responsible for displacement from said optical zone portion of said chamber of one of said liquids by the other with a change in orientation of said lens within a generally useful range, said displacement resulting in a change in the relative amounts of said liquids in the two portions of said chamber, and manifesting as a relocation of said horizontal part of said interface and a change in the contour of said part of said interface inside said optical zone.

31. A contact lens as defined in claim 30 in which the width of said annular portion is such that said horizontal part of said interface intersects the inner margins of said annular portion at substantially the same points with said lens tilted downwardly as it does with said optical axis positioned horizontally.

32. A contact lens as defined in claim 31 in which the depth of said chamber is augmented over said annular portion.

33. A contact lens as defined in claim 31 in which said chamber extends over the sclera.

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